Work Order ID 96309

January 23, 2013 7:57:22 AM

D3628-5

96309

Item ID:	D3628-5	96309	**Accept**	*N900040100*	**Setup** **Start** *NS1*
Revision ID:					**Stop** *NS2*
Item Name:	Cupped Washer				
Start Date:	1/23/13	**Start Qty:** 500.00	*500*	**Cust Item ID:**	
Required Date:	2/15/13	**Req'd Qty:** 500.00	*500*	**Customer:**	
Reference:					

Approvals:	**Process Plan:** CL	**Date:** 13/06/23	**Tooling:**	**Date:**	**Run** **Start** *NR1*
	QC:	**Date:**	**SPC (Y/N):**	**Date:**	**Stop** *NR2*

Work Center ID	Description	Std Hours	Tool #	Plan Code	Acc Qty	Reject Qty	Reject Number	Insp. Stamp

Draw Nbr	Revision Nbr
D3628	C

100

100

Purchasing

Purchasing

PURCHASING 0.00

CL 13/06/23 500

Memo 0.00

Issue P/O: ~~18907~~ 20363

Manufacture as per dwg D3628

Possible Supplier: GFI

Material release note is required

110

110

Packaging

Packaging

Receive & Inspect for Damage & Mat'l Certs 0.00

23/7/20 (500)

Memo 0.00

Ensure material certification is attached

DQA: ________ Date: ____________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: ________	**DISPOSITION**	**AGAINST DEPARTMENT/PROCESS**			
Part No. ________	Rework ☐	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
NCR No. ________	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
	Work Order Update ☐	Large Fab ☐	Composite ☐	Supplier ☐	☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear	General			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete	☐ Part Incorrect	☐ Weld
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other ________
☐ Ripples in Bend	☐ Drill Holes	☐ Offset	________	
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration	________	
☐ Turning Sequence	☐ Finish	☐ Out of Sequence	________	
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions		

Work Order ID 96309

January 23, 2013 7:57:22 AM

96309

Item ID: D3628-5
Revision ID:
Item Name: Cupped Washer

Accept *N900040100*

Setup **Start** *NS1*
Stop *NS2*

Start Date: 1/23/13 **Start Qty:** 500.00 *500*
Required Date: 2/15/13 **Req'd Qty:** 500.00 *500*
Reference:

Cust Item ID:
Customer:

Approvals: **Process Plan:** ______ **Date:** ______ **Tooling:** ______ **Date:** ______
QC: ______ **Date:** ______ **SPC (Y/N):** ______ **Date:** ______

Run **Start** *NR1*
Stop *NR2*

Sequence ID / Work Center ID	Operation Description	Set Up / Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC6- Inspect dimensions to drawing Memo	0.00 0.00	DAS 27 13 7 25			500			
130 *130* Packaging Packaging	Identify as per dwg & Stock Location: ~~ST057~~ 071 Memo	0.00 0.00				500x		M.D. 13-07-26	
140 *140* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00					13/7/29		[signature]

MCJ 13-07-26

DQA: ________ Date: ______________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

	DISPOSITION	AGAINST DEPARTMENT/PROCESS			
Work Order: ______________	Rework ☐	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
Part No. ______________	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
NCR No. ______________	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
	Work Order Update ☐	Large Fab ☐	Composite ☐	Supplier ☐	☐

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data ☐									
Equip/Tooling ☐									
Operator ☐									
Material ☐									
Setup ☐									
Other ☐									
Process ☐									
Supplier ☐									
Training ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear	General			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete	☐ Part Incorrect	☐ Weld
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other ______
☐ Ripples in Bend	☐ Drill Holes	☐ Offset	______________	
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration	______________	
☐ Turning Sequence	☐ Finish	☐ Out of Sequence	______________	
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions		

Picklist Print

January 23, 2013 7:57:22 AM

Work Order ID: 96309

Parent Item: D3628-5

Parent Item Name: Cupped Washer

Start Date: 1/23/13

Start Qty: 500.00

Required Date: 2/15/13

Required Qty: 500.00

Comments: IPP REV:A 12.04.24 NEW ISSUE DD VERF:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3628-5P CUPPED WASHER		Purchased	No			110	Each	0.0000	1	**500**		3/7/20	(500)

DQA: ________ Date: ________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: ________	**DISPOSITION**	**AGAINST DEPARTMENT/PROCESS**			
	Rework ☐	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
Part No. ________	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
NCR No. ________	Work Order Update ☐	Large Fab ☐	Composite ☐	Supplier ☐	☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear	**General**			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
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☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other ________
☐ Ripples in Bend	☐ Drill Holes	☐ Offset	________	
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration	________	
☐ Turning Sequence	☐ Finish	☐ Out of Sequence	________	
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions		

DART AEROSPACE

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO20363

Purchase Order Date 6/27/2013

PO Print Date 6/27/2013

Order From : VC-GFI001

GFI
180 AVENUE LABROSSE
POINTE CLAIRE, QC H9R 1A1
CA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAXED

Contact Name		**Buyer**	Chantal Lavoie
Vendor Phone	514 630 4877	**Customer POID**	
		Customer Tax #	10127-2607
Ship To Contact		**Terms**	Net 30
Ship To Phone		**Currency**	CAD
Ship Via:	FedEx PI collect	**FOB**	Destination-Collect
Ship Acct:			

Line Nbr	Reference / Vendor Part Number / Line Comments / Delivery Comments	Description/ Mfg ID	Req Date/ Taxable / Promise Date	CD	Req Qty/ Unit of Measure	List Price	Disc %	Discounted Unit Price	Extended Price
1	D3628-5P AS PER DWG D3628 REV. C B96309	CUPPED WASHER	7/19/2013 Yes 7/19/2013		500.00 Each				$1,325.00

420 +80 500

Line Total: **$1,325.00**

PO Total: **$1,325.00**

Note: Pricing listed above is as per contract agreement between Dart Aerospace and the respective manufacturer.
No substitution or deviation without consent.
Certificate of Conformity or Material Certification required (YES) NO

Change Nbr: 1 **Change Date:** 6/27/2013

180 AVENUE LABROSSE
POINTE-CLAIRE, QC, CANADA H9R 1A1
TÉL.:(514) 630-4877 - FAX:(514) 630-4849

GFI est une division de Thomas & Betts Fabrication Inc. / GFI is a division of Thomas & Betts Manufacturing Inc.

ISO 9001:2000 CERTIFICATION Intertek

BON DE LIVRAISON / *SHIPPING MEMO*

DATE DE LIVRAISON/*SHIPPING DATE* JR-*DY*	MO-*MO*	AN-*YR*	N° DE BON DE LIVRAISON *SHIPPING MEMO NO*	PAGE
23	07	13	0517555	1/1

VENDU À / *SOLD TO*

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON
K6A 1K7

EXPÉDIÉ À / *SHIP TO*

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON
K6A 1K7

CODE DE CLIENT *CUSTOMER CODE*	N° DE CONTRAT *JOB NO*	VOTRE N° DE COMMANDE *YOUR PURCHASE ORDER NO*	EXPÉDIÉ PAR *SHIP VIA*
DART GFI-0299	0270599	PO20363	

QUANTITÉ *QUANTITY*	N° DE PIÈCE *PART NO*	DESCRIPTION
415	D3628-5P	CUPPED WASHER

MFG. JOB# J0270599-001 **QTY** 415

DUE DATE: 19. JULY. 2013

GFI 8 CONTRÔLE QUALITÉ 9001 2008

EXPÉDITEUR *SHIPPER*	N° DE BON DE LIVRAISON *SHIPPING MEMO NO*

REÇU PAR / *RECEIVED BY* DATE

TOUTES LES RÉCLAMATIONS DOIVENT ÊTRE FAITES EN DEDANS DE 5 JOURS DE LA RÉCEPTION.
ALL CLAIMS MUST BE MADE WITHIN 5 DAYS OF RECEIPT OF GOODS.

CERTIFICATE OF COMPLIANCE
CERTIFICAT DE CONFORMITE

GFI

Membre de / A Member of Thomas&Betts

180 LABROSSE AVENUE
POINTE CLAIRE, QC
H9R 1A1

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7

CERTIFICATE NO. 6 OUR JOB NO J0270599 SHIPPING MEMO 0517555

ITEM	QUANTITY	PURCHASE ORDER	PART NUMBER	REV	NAME	DWG ISSUE
–	415 PCS	PO20363	D3628-5P	C	CUPPED WASHER	C

MATERIAL	SUPPLIED BY	MAT. REL. NO.
.050 THK AMS 5513 304 ANN	TW METALS / ALLEGHENY LUDLUM	H/N # 980065

	PROCESS	PROCESSOR	RELEASE NOTE #
1	FIRST ARTICLE INSPECTION REPORT ON FILE	GFI	N/A
2	REF: GFI MANUFACTURING JOB NUMBER J0270599-001 (415 PCS)	GFI	N/A
3			
4			
5			
6			
7			
8			
9			

WE HEREBY CERTIFY ALL THE PARTS COVERED BY THIS CERTIFICATE HAVE BEEN MANUFACTURED FROM MATERIAL SUPPLIED ON RELEASE NOTE SHOWN ABOVE AND THAT ALL PARTS HAVE BEEN INDIVIDUALLY INSPECTED AND CONFORM TO THE DRAWINGS AND PURCHASE ORDER REFERENCED ABOVE.

DATE 23 JULY 2013

G.F.I. Q.C. REP. [signature] [stamp: GFI 18]

TW METALS
O'Neal High-Performance Metals Group

7640 REINHOLD DR
CINCINNATI OH 45237
Tel: 800-806-1757
FAX: 5138213825

CERTIFICATE OF COMPLIANCE

Your Order Number: 0082227

Our delivery receipt Number: 03309227

Date: 5/03/13

This is to certify that the material shipped against the above order on the above delivery receipt, consisting of:

Quantity: 63.000 LB

Line Number: 1

Grade: 304 S/S SHEET * AMS 5513 .050

Part #: TS05048X964A

Heat Number: 980065

Specification:

Complies in all respects with the item description.

BY: Janice Clark
Authorized Test Department Clerk

NOTICE OF SHIPMENT/
PACKING LIST

ATI Allegheny Ludlum
Allegheny Technologies

CERTIFICATE OF TEST

AL 6188-4 1211

CUST. ORD. NO. & DATE		CUST. CODE	ACCEPTING MILL	SHIPPER NO.	PRODUCT CODE	MILL ORDER NUMBER	DATE SHIPPED
M 49282420	08/23/12	974093	VANDERGRIFT, PA.	556118	13020102060000	30-082-537	10/15/12

FORMS DISTRIBUTION: SOLD TO → 4 | SHIP TO → | SPEC → 1

REPEAT ORDER: 95434-1 | DO RATE: 38 | PRIORITY: | GOV'T CONTRACT: | MATL: 1121 | SHIPPING LOCATION: VANDERGRIFT PA | INVOICE: 659294

PRIME: DSO 56 SEC.: DSO

SOLD TO
TW METALS INC
PO BOX 644
EXTON PA 19341

SHIP TO
SPECIALTY METALS PROCESSING
837 SEASONS ROAD
STOW OH 44224

GRADE AND SPECIFICATIONS

CARRIER - STIVASON & SONS TRKG.,INC

"ATI 304" STAINLESS STEEL SHEET C R COILS ANNEALED 2B FIN 3 EDGE (AMS 5513J) (ASTM-A-666-10) (ASME-SA-240 ED 2010) (ASTM-A-240-12) (CP49-7.4.2-005 REV 7) (6/14/12 EXCEPT TO CP49-7.4.2-005)

ITEM	PCS	DIMENSIONS W/G/L	HEAT #	COIL #	TEST #	GROSS	TARE	NET	THEO	TAG #/ CD SKID #
001	1	36./.050/2346.	980065	09112N183	8797948	14090	50	14040		893289
C CUST IDENTITY 47252										
	1	SKID				14090	50	14040		

DIST: MAIL AND FAX ACK, S/N AND INVOICE TO "ATTN: CARA TURNER" @ 484-359-9236. FAX IN ADVANCE OF SHIPMENT ALL CT'S TO 484-359-9236. ATTN: CARA TURNER

TYPE HEAT/TEST	--C---	--MN--	--P---	--S---	--SI--	--CR--	--NI--	--MO--	--CU--	--N---
HEAT 980065	.05	1.19	.034	.0004	.36	18.20	8.03	.45	.52	.08
TEST LOCATION	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI

ITEM TEST NO	YIELD PSI *	TENSILE PSI	% ELONG IN 2"	% R/A	HARDNESS	BEND	CORROSION A 262 PR E	GRAIN SIZE	HARDENABILITY
001 8797948	T 52000.	96500.	53.	NR	86.HRBW 86.HRBW	T PASS	PASS	NR	NR
TEST LOCATION	TC	TC	TC		TC	TC	TC		

* Y.S. BY 0.2% OFFSET METHOD

ITEM TEST NO	MELT SOURCE
001 8797948	1.

TW METALS
M49282420
TEST REPORTS
Oct 17 2012
ACCEPTED BY

NR = DATA NOT REQUIRED
GRADE VERIFICATION WAS CARRIED OUT SPECTROSCOPICALLY
PAGE 01 - CONTINUED ON PAGE 02

10/15/12 09:20:34

Stephen Wolff - Director, Corporate Quality Assurance

NOTICE OF SHIPMENT/
PACKING LIST

ATI Allegheny Ludlum
Allegheny Technologies

CERTIFICATE OF TEST

AL 6168-4 1211

CUST. ORD. NO. & DATE		CUST. CODE	ACCEPTING MILL	SHIPPER NO.	PRODUCT CODE	MILL ORDER NUMBER	DATE SHIPPED
M 49282420	08/23/12	974093	VANDERGRIFT, PA.	556118	13020102060000	30-082-537	10/15/12

FORMS DISTRIBUTION: SOLD TO	SHIP TO	SPEC	REPEAT ORDER	DO RATE	PRIORITY	GOV'T CONTRACT	MAT'L	SHIPPING LOCATION		INVOICE
4		1	95434-1	38			1121	VANDERGRIFT	PA	659294

SOLD TO
TW METALS INC
PO BOX 644
EXTON PA 19341

PRIME SEC.
DSO DSO
56

SHIP TO
SPECIALTY METALS PROCESSING
837 SEASONS ROAD
STOW OH 44224

GRADE AND SPECIFICATIONS

CARRIER - STIVASON & SONS TRKG.,INC

"ATI 304" STAINLESS STEEL SHEET C R COILS ANNEALED 2B FIN 3 EDGE (AMS 5513J) (ASTM-A-666-10) (ASME-SA-240 ED 2010) (ASTM-A-240-12) (CP49-7.4.2-005 REV 7) (6/14/12 EXCEPT TO CP49-7.4.2-005)

DIN EN 10204:2005 - 3.1 CERTIFICATE DOES NOT INDICATE PED APPROVAL FOR THIS MATERIAL.

ATI ALLEGHENY LUDLUM DOES NOT USE MERCURY IN THE TESTING OR PRODUCTION OF ITS PRODUCTS.

MATERIAL IS OF USA MELT AND MANUFACTURE.

NO WELDS/WELD REPAIRS PERFORMED.

THIS DIN EN 10204:2005 - 3.1 CERTIFICATE OF TEST SHALL NOT BE REPRODUCED EXCEPT IN FULL. FEDERAL LAW PROHIBITS THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE AND MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL LAW. ATI AL HOLDS SEVERAL QUALITY CERTIFICATIONS THAT INCLUDE ISO-9001, AS9100, NADCAP, AND ISO/IEC 17025. MATERIAL WAS MANUFACTURED IN ACCORDANCE WITH THE ATI AL QUALITY MANUAL REVISION 20 DATED 02/24/2012.

ATI ALLEGHENY LUDLUM PERFORMS CHEMICAL ANALYSIS BY THE FOLLOWING TECHNIQUES:
C, S BY COMBUSTION/INFRARED
N, O, H BY INERT FUSION/THERMAL CONDUCTIVITY
MN, P, SI, CR, NI, MO, CU, CB, CO, V BY WDXRF
B BY OES
AL AND TI (>=0.10%) BY WDXRF, OTHERWISE BY OES
PB, BI, AG BY GFAA

THE NUMERIC CODES SHOWN UNDER MELT SOURCE CAN BE INTERPRETED AS FOLLOWS:
1. - MATERIAL MELTED, ROLLED AND TESTED IN THE UNITED STATES.
2. - FOREIGN MELT, ROLLED AND TESTED IN THE UNITED STATES.

TW METALS
M49282420
TEST REPORTS
OCT 17 2012
ACCEPTED BY

PAGE 02 - CONTINUED ON PAGE 03

10/15/12 09:28:34

The above is a true copy of data on file. The material and test results conform to the sales contract and specification(s) as set forth in Allegheny Ludlum's Order Acknowledgement.

Stephen Wolff - Director, Corporate Quality Assurance

NOTICE OF SHIPMENT/
PACKING LIST

ATI Allegheny Ludlum
Allegheny Technologies

CERTIFICATE OF TEST

AL 6168-4 1211

CUST. ORD. NO. & DATE		CUST. CODE	ACCEPTING MILL	SHIPPER NO	PRODUCT CODE	MILL ORDER NUMBER	DATE SHIPPED
M 49282420	08/23/12	974093	VANDERGRIFT, PA.	556118	13020102060000	30-082-537	10/15/12

FORMS DISTRIBUTION: SOLD TO 4 | SHIP TO | SPEC 1

REPEAT ORDER 95434-1 | DO RATE 38 | PRIORITY | GOV'T CONTRACT | MAT'L 1121 | SHIPPING LOCATION VANDERGRIFT PA | INVOICE 659294

SOLD TO
TW METALS INC
PO BOX 644
EXTON PA 19341

PRIME DSO 56 SEC. DSO

SHIP TO
SPECIALTY METALS PROCESSING
837 SEASONS ROAD
STOW OH 44224

GRADE AND SPECIFICATIONS

CARRIER - STIVASON & SONS TRKG.,INC

"ATI 304" STAINLESS STEEL SHEET C R COILS ANNEALED 2B FIN 3 EDGE (AMS 5513J) (ASTM-A-666-10) (ASME-SA-240 ED 2010) (ASTM-A-240-12) (CP49-7.4.2-005 REV 7) (6/14/12 EXCEPT TO CP49-7.4.2-005)

TESTING WAS PERFORMED AT THE FOLLOWING LOCATIONS:
MI = ATI-ALLEGHENY LUDLUM; 950 TENTH STREET; MIDLAND, PA 15059
TC = ATI-ALLEGHENY LUDLUM; 1300 PACIFIC AVENUE; NATRONA HEIGHTS, PA 15065

<<<<<<<< FOR ACCESS TO ONLINE CERTIFICATES OF TEST >>>>>>>>
<<<<<<<< REGISTER AT WWW.ALCEXTRA.COM >>>>>>>>

TW METALS
M49282420
TEST REPORTS
OCT 17 2012
ACCEPTED BY

10/15/12 09:28:34

Stephen Wolff - Director, Corporate Quality Assurance

BON DE LIVRAISON / *SHIPPING MEMO*

GFI

180 AVENUE LABROSSE
POINTE-CLAIRE, QC, CANADA H9R 1A1
TÉL.:(514) 630-4877 - FAX:(514) 630-4849

ISO 9001:2000 CERTIFICATION Intertek

GFI est une division de Thomas & Betts Fabrication Inc. / GFI is a division of Thomas & Betts Manufacturing Inc.

DATE DE LIVRAISON/*SHIPPING DATE* JR. *DY*	MO. *MO.*	AN *YR*	N° DE BON DE LIVRAISON *SHIPPING MEMO NO.*	PAGE
23	07	13	0517558	1/1

VENDU À / *SOLD TO*

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON
K6A 1K7

EXPÉDIÉ À / *SHIP TO*

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON
K6A 1K7

CODE DE CLIENT *CUSTOMER CODE*	N° DE CONTRAT *JOB NO.*	VOTRE N° DE COMMANDE *YOUR PURCHASE ORDER NO.*	EXPÉDIÉ PAR *SHIP VIA*
DART GFI-0299	0270599	PO20363	

QUANTITÉ *QUANTITY*	N° DE PIÈCE *PART NO.*	DESCRIPTION
85	D3628-5P	CUPPED WASHER

MFG. JOB# J0255796-001 **QTY** 85

DUE DATE: 19 · JULY · 2013

GFI 8 CONTRÔLE QUALITÉ ISO 9001: 2008

EXPÉDITEUR *SHIPPER*	N° DE BON DE LIVRAISON *SHIPPING MEMO NO.*

REÇU PAR / *RECEIVED BY* DATE

TOUTES LES RÉCLAMATIONS DOIVENT ÊTRE FAITES EN DEDANS DE 5 JOURS DE LA RÉCEPTION.
ALL CLAIMS MUST BE MADE WITHIN 5 DAYS OF RECEIPT OF GOODS.

CERTIFICATE OF COMPLIANCE
CERTIFICAT DE CONFORMITE

GFI
Membre de / A Member of Thomas&Betts

180 LABROSSE AVENUE
POINTE CLAIRE, QC
H9R 1A1

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7

CERTIFICATE NO. 7 OUR JOB NO J0270599 SHIPPING MEMO 0517558

ITEM	QUANTITY	PURCHASE ORDER	PART NUMBER	REV	NAME	DWG ISSUE
–	85 PCS	PO20363	D3628-5P	C	CUPPED WASHER	C

MATERIAL	SUPPLIED BY	MAT. REL. NO.
.050 THK AMS 5513 304 ANN	TW METALS / ALLEGHENY LUDLUM	H/N # 837666

	PROCESS	PROCESSOR	RELEASE NOTE #
1	FIRST ARTICLE INSPECTION REPORT ON FILE	GFI	N/A
2	REF. GFI MANUFACTURING JOB NUMBER J0255796-001 (85 PCS)	GFI	N/A
3			
4			
5			
6			
7			
8			
9			

WE HEREBY CERTIFY ALL THE PARTS COVERED BY THIS CERTIFICATE HAVE BEEN MANUFACTURED FROM MATERIAL SUPPLIED ON RELEASE NOTE SHOWN ABOVE AND THAT ALL PARTS HAVE BEEN INDIVIDUALLY INSPECTED AND CONFORM TO THE DRAWINGS AND PURCHASE ORDER REFERENCED ABOVE.

DATE 23 JULY 2013

G.F.I. Q.C. REP. [signature] GFI 8 CONTROLE QUALITE

TW METALS
O'Neal High-Performance Metals Group

CERTIFICATIONS

FRAUD AND FALSIFICATION STATEMENT

The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under statutes including federal law. Title 18 chapter 47.

CERTIFICATE OF COMPLIANCE

This certificate of compliance certifies that the material supplied on the purchase order number below complies in all respects with the material description and procurement specifications.

MERCURY FREE STATEMENT

TW Metals certifies that the supplies furnished under this contract contain no metallic mercury or mercury compounds, and have not come in contact with mercury or alpha bearing instruments while in the possession of TW Metals Inc.

Customer Name: GFI, Inc

Purchase Order No.: 0081162

Item number: 0001 **Shipper/Invoice No.:** 0330029 8

Material: 304 S/S Sheet **Manufacturing Mill:** United Performance

Specification: AMS 5513 **Heat / Lot No.** 837666

Size: .050 **Quantity:** 8 pcs

Signature: Janice Clark **Date:** 9/13/12

NOTICE OF SHIPMENT/
PACKING LIST

ATI Allegheny Ludlum
Allegheny Technologies

CERTIFICATE OF TEST

AL 6168-4 1211

CUST. ORD. NO & DATE		CUST. CODE	ACCEPTING MILL	SHIPPER NO.	PRODUCT CODE	MILL ORDER NUMBER	DATE SHIPPED
01020865	05/17/12	110977	VANDERGRIFT, PA.	545003	13020102060000	30-052-366	07/03/12

FORMS DISTRIBUTION: SOLD TO→	SHIP TO→	SPEC →	REPEAT ORDER	DO RATE	PRIORITY	GOVT CONTRACT	MATL.	SHIPPING LOCATION		INVOICE
1			82037-5	26			1124	VANDERGRIFT	PA	655648

SOLD TO
UNITED PERFORMANCE METALS
3475 SYMMES ROAD
HAMILTON OH 45015

PRIME SEC.
DSO DSO
516

SHIP TO
UNITED PERFORMANCE METALS
3475 SYMMES ROAD
HAMILTON OH 45015

GRADE AND SPECIFICATIONS

CARRIER - GROSS, RONALD, INC.

"ATI 304L" STAINLESS STEEL SHEET C R COILS ANNEALED 2B FIN 3 EDGE (UPM 304L/304/302 LCS) (AMS 2248G) (AMS 5511H) (AMS 5513J) (AMS 5516P) (ASTM-A-262-10 PRA E/SCREEN PRA A) (ASTM-A-666-10) (S-400 DTD 10/10/2011) (ASTM-A-240-12) (S-1000 DATED 8/1/2011) (ASME-SA-240 ED 2010) (10/11/10 EXCEPT UPM 304L/304/302) (UNS S30403) (UNS S30200) (UNS S30400) (UPM-QRS-001) (EN 10028-7:2007-1.4301-2B) (EN 10028-7:2007-1.4307-2B) (PWA 300 REV BK) (F-14, F-17, F-22, F-23, F-MASTER) (CONTROLLED TO PWA LCS REQUIRMENTS)

ITEM	PCS	DIMENSIONS W/G/L	HEAT #	COIL #	TEST #	GROSS	TARE	NET	THEO	TAG #/ CD	SKID #
001	1	36./.050/2507.	837666	05242N093	8794397	15650	50	15600		872978	
C CUST IDENTITY 00636											
	1 SKID					15650	50	15600			

TYPE HEAT/TEST	--C--	--MN--	--P--	--S--	--SI--	--CR--	--NI--	--MO--	--CU--	--N--
HEAT 837666	.021	1.75	.033	.0001	.35	18.22	8.09	.32	.45	.08
TEST LOCATION	BN	BN	BN	BN	BN	BN	BN	BN	BN	BN
CHECK 8794397	.023	1.77	.033	.0002	.35	18.19	8.06	.32	.45	.07
TEST LOCATION	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC

ITEM TEST NO	YIELD PSI *	TENSILE PSI	% ELONG IN 2"	% R/A	HARDNESS	BEND	CORROSION A 262 PR E	GRAIN SIZE
001 8794397					82.HRBW	T PASS	PASS	7.
	T 45500.	95000.	75.		82.HRBW			
TEST LOCATION	TC	TC	TC		TC	TC	TC	TC

* Y.S. BY 0.2% OFFSET METHOD

ITEM TEST NO	CORROSION ISO 3651-2	MELT SOURCE	T-YIELD 1%	P&W E-25 TRAN BEND
001 8794397	PASS	1.	52500.	2.
TEST LOCATION	TC		TC	TC

TW METALS
TEST REPORTS
M49280492
JUL 23 2012
ACCEPTED BY

REVIEWED BY Q.C.
Date 7/4/12 By

PAGE 01 - CONTINUED ON PAGE 02

07/03/12 15:45:13

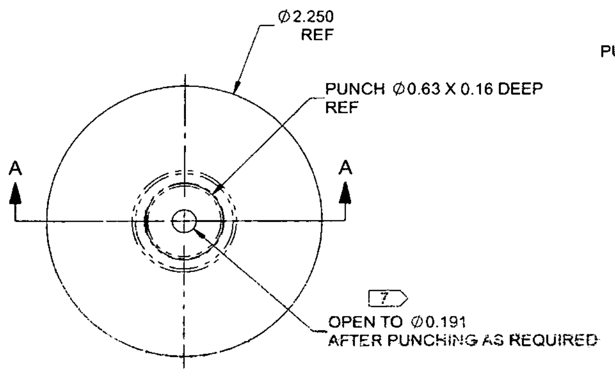
The above is a true copy of data on file. The material and test results conform to the sales contract and specification(s) as set forth in Allegheny Ludlum's Order Acknowledgement.

Stephen Wolff - Director, Corporate Quality Assurance

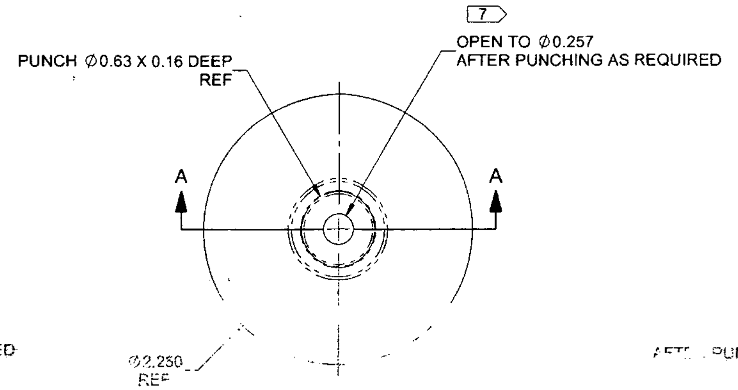
Description: 304/304L ANN .048-.052 AMS5513,5511
Customer: TW Metals
Shipped: 07/20/2012
Heat: 837666
Size: 36 X 120
P.O.: M49280492
Part#: 51073
Sales #: 01191693
Quantity: 16

UNITED PERFORMANCE METALS
This is to certify that in accordance with the records in our files the material shipped on your purchase order conforms to the following.
3475 Symmes Road Hamilton, OH 45015

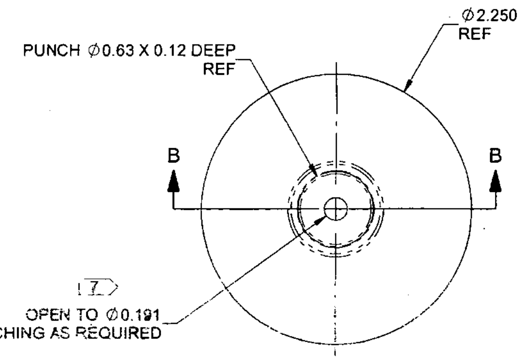
Authorized Signature
Lynne Harper



D3628-1 CUPPED WASHER

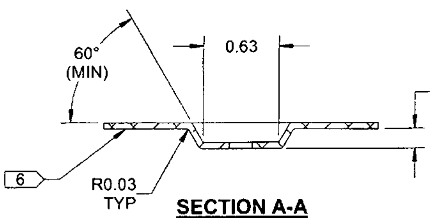


D3628-3 CUPPED WASHER

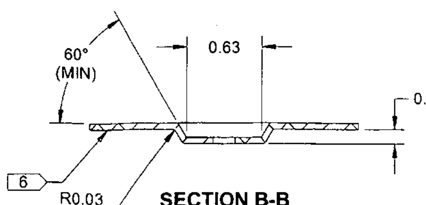


C **D3628-5 CUPPED WASHER**

CL 13/01/23
W/O: 96309



SECTION A-A
(D3628-1/-3)



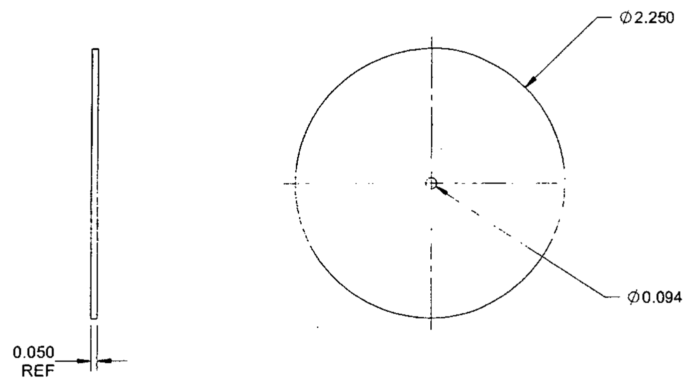
SECTION B-B
(D3628-5 ONLY)

RELEASED
2012-05-07

NOTES:
1) MATERIAL: MADE FROM D3628-1F
2) FINISH: NONE
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
5) BREAK ALL SHARP EDGES 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY PER QSI 044 6.5
7) WHEN DRILLING OUT THE CENTRE HOLE AFTER PUNCHING, ENSURE THAT THE HOLE IS DRILLED CONCENTRIC TO THE CUPPED AREA, WITHIN 0.03
8) WEIGHT: 0.02 lbs

REV.	DESCRIPTION	BY	DATE
C	UPDATE DWG TO CURRENT STD; ADD -5, ZN C1-1.	DC	12.04.19
B	REMOVE POWDER COAT	CB	07.07.09
A	NEW ISSUE	CB	07.06.08

DESIGN	DC	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	DC	
CHECKED	[signature]	DRAWING NO. D3628 — REV. C — SHEET 1 OF 2
MFG. APPR.	[signature]	
APPROVED	[signature]	TITLE: CUPPED WASHER — SCALE: NTS
DE APPR.	[signature]	
DATE	12.04.19	



D3628-1F FLAT PATTERN

RELEASED 2012-05-07

NOTES:

1) MATERIAL: AISI 304/316 STAINLESS STEEL SHEET, 18 GAUGE (0.050 THICK)
   ANNEALED, 2B FINISH
   PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 OR ASME SA240
   REF DART SPEC M304S18GA
2) FINISH: NONE
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
5) BREAK ALL SHARP EDGES 0.005 TO 0.010 MAX
6) IDENTIFICATION: NONE
7) WEIGHT: 0.02 lbs

DESIGN	BC	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	BC	
CHECKED	[illegible]	DRAWING NO. D3628 — REV. C — SHEET 2 OF 2
MFG. APPR.	[illegible]	
APPROVED	[illegible]	TITLE CUPPED WASHER — SCALE NTS
DE APPR.	[illegible]	
DATE	12.04.19	